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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,390	12/23/2003	Masahiko Matsukawa	21581-00311-US	7919
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CONNOLLY BOVE LODGE & HUTZ LLP SUITE 800 1990 M STREET NW WASHINGTON, DC 20036-3425			CAMERON, ERMA C	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/743,390

Applicant(s)

MATSUKAWA ET AL.

Examiner

Erma Cameron

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,7-11 and 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6,12 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

a) setting the F conc. to 10% or less by the addition of magnesium, calcium, zinc, a silicon-containing compound or copper (claim 2);

b) setting the F conc. to 10% or less by heating to 30 degrees C or more (claim 4);

c) setting the F conc. to 10% or less by treating at 5-100 degrees C at pH 9 (claim 5).

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable

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thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Burton Amernick on July 26, 2005 a provisional election was made WITH traverse to prosecute the invention of a), claim 2. Affirmation of this election must be made by applicant in replying to this Office action. Claims 4- 5, 7-11 and 14-20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to nonelected species b) and c).

Claims 1-3, 6 and 12-13 have been examined.

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3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-3, 6 and 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 1, lines 2 and 8: substance to be treated is confusing, because it is not clear if the treatment with the chemical conversion coating agent is the treatment that is referred to, or if the treatment is something different from the conversion coating treatment.

b) Claims 1-3, 6 and 12-13: kind is a vague term, and could mean almost anything.

c) Claim 1, line 5: it is suggested that fluorine be inserted after “comprises” so that fluorine will not appear to be part of the group consisting of...

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d) Claim 1: it is not clear what “atom ratio basis” means. Is this simply the number of fluorine atoms in the coating divided by a count of all atoms in the coating? Would the atom count also include the atoms in the solvent?

e) Claim 1, line 6/7: there is no antecedent basis for “the atom ratio basis”.

f) Claims 1-3, 6 and 12-13: it is not clear if the pretreatment in line 1 means the treatment with the chemical conversion coating agent, or if pretreatment refers to some other treatment. It is also not clear what “coating” is being referred to in line 1, the conversion coating of line 2 or 3 or some other coating step.

g) Claim 3, line 4: it is not clear if the “and/or” applies all three species in (ii) or not. With no guidance in this matter, the examiner assumes this section of the claim to read: “a mixture of a water-borne resin and/or a polyisocyanate compound and/or a melamine resin (ii)”.

h) Claims 6 and 12-13: there is no antecedent basis for “metal”, and it is not clear what is meant by “...ppm...in terms of metal...”. Do only the zirconium, titanium and hafnium atoms count in calculating ppm?

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6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-3, 6 and 12-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

a) atom ratio basis: 3:25-29, 5:28-31, 8:28-9:7 and elsewhere. It is not clear what “atom ratio basis” means. Is this simply the number of fluorine atoms in the coating, divided by a count of all atoms in the coating? Would the atom count also include the atoms in the solvent?

b) “ppm...of zirconium, titanium and hafnium in terms of metal”: 4:16-19, 7:19-29 and elsewhere. It is not clear what is meant by “...ppm...in terms of metal...”. Do only the zirconium, titanium and hafnium atoms count in calculating ppm?

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tomlinson et al (5759244).

'244 teaches an aqueous, acidic (pH preferably is 1.5-3.5; (5:12-24)) coating composition for steel and other metals (1:5-8) that comprises titanium, zirconium or hafnium and may tolerate a low level of F (F:Zr = 2:1 to 0:1; (3:15-32, see Claim 1)), thus inherently meeting the limitation of <10% F on an atom ratio basis.

10. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tomlinson (5380374).

'374 teaches a conversion coating for ferrous and other metals that comprises zirconium, fluoride and calcium ions at a pH of 2.6-3.1, and may have additives such as zinc and tannic acid (see Abstract, 4:22-5:22). The Zr is at 10-5000 ppm and the F is at 10-6000 ppm (2:23-37). If the Zr is at 5000 ppm and F is at 10 ppm, this meets the limitation of <10% F on an atom ratio basis. In addition, the composition contains zinc and calcium, which inherently reduces the F level.

The examiner assumes claim 3 to read, in part: "a mixture of a water-borne resin and/or a polyisocyanate compound and/or a melamine resin (ii)". See 5 g) above. '374 also



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contains tannins, which are polyphenolic compounds, thus meeting the limitation of claim 3 (4:43-54).

11. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dolan (5427632).

'632 teaches a conversion coating for steel and other metals that comprises F, one of Ti, Zr or Hf, one of Mg, Zn or Cu, and a water soluble melamine resin or other resin, at a pH of 0.5-5.0 (see Abstract, 5:35-50). The presence of Mg, Zn or Cu inherently reduces the F level, thus meeting the limitation of <10% F on an atom ratio basis.

12. Claims 1-3, 6 and 12-13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hauser et al (6312812).

'812 teaches treating ferrous and nonferrous metals with a composition that may combine a first pretreatment and second pretreatment (see Abstract) that comprises Zr, Ti or Hf (4:53-60) at preferably 100-1000 ppm metal (5:17-34), F (5:4-16, claim 26), resins such as an aminoplast or polyisocyanate (5:35-6:11), and may contain a silicon-containing cpd (claim 27) or zinc (claim 30). The presence of silicon or zinc inherently reduces the F level. The pH is preferably 3-5 (5:17-34).

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***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomlinson et al (5759244).

‘244 is applied here for the reasons given above.

‘244 teaches that the zirconium content is 1000-20000 ppm (3:58-67), which overlaps with applicant’s claimed range.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. See *In re Malagari* 182 USPQ 549.

15. Claims 6 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomlinson (5380374).

‘374 is applied here for the reasons given above.

‘374 teaches that the Zr level is 10-5000 ppm (2:23-37), which overlaps with applicant’s claimed range.

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The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. See *In re Malagari* 182 USPQ 549.

16. Claims 6 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolan et al (5427632).

‘632 is applied here for the reasons given above.

‘632 does not disclose the Zr/Ti/Hf content in terms of ppm, and therefore a direct comparison with applicant’s claimed ppm range is difficult, but ‘632 appears to meet the ppm limitations of claims 6 and 12-13.

### ***Double Patenting***

17. Claims 2 and 12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 5 and 11 of copending Application No. 10/743387. Although the conflicting claims are not identical, they are not patentably distinct from each other because both teach the pretreatment of metal with a composition that comprises F and one of Zr, Ti or Hf, with 20-10000 ppm of metal at pH 1.5-6.5. The instant application has a limitation of <10% F, but the presence of the silane (see claim 1 of ‘387) and Mg, Zn, Ca and Cu (see claim 5 and 11 of ‘387) in the ‘387 composition inherently reduces the level of F.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

18. Claims 1-3, 6 and 12-13 are provisionally rejected under 35 U.S.C. 103(a) as being obvious over copending Application No. 10/743387 which has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e) if published or patented. This provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future publication or patenting of the conflicting application.

This provisional rejection might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application prior to the effective U.S. filing date of the copending application under 37 CFR 1.131. This rejection might also be overcome by showing that the copending application is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

'387 teaches the pretreatment of metal with a composition that comprises F and one of Zr, Ti or Hf, with 20-10000 ppm of metal at pH 1.5-6.5 (3:24-4:19). The presence of the silane (see claim 1 of '387) and Mg, Zn, Ca and Cu (see claim 5 and 11 of '387) in the '387 composition inherently reduces the level of F. The silane may be in the form of a polymer (8:1-15), thus meeting the limitation of claim 3 (The examiner assumes claim 3 to read, in part:

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“a mixture of a water-borne resin and/or a polyisocyanate compound and/or a melamine resin (ii)”. See 5 g) above.)

### *Specification*

19. The disclosure is objected to because of the following informalities:

All the tables have print so small that parts are almost illegible – especially x and at%. The examiner suggests that the tables be redone in larger type.

Appropriate correction is required.

### *Conclusion*

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erma Cameron whose telephone number is 571-272-1416. The examiner can normally be reached on 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
ERMA CAMERON  
PRIMARY EXAMINER

Erma Cameron  
Primary Examiner  
Art Unit 1762

July 31, 2005